Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

DISCUSSION AND CORRESPONDENCE.

CONVOCATION WEEK.

To the Editor of Science: I am in hearty sympathy with nearly all the opinions expressed in the recent article in Science entitled 'Convocation Week.' The American Association has a large membership. One of its chief functions is to provide for its members the means of getting together for scientific and social intercourse. The plan of a convocation week into which might be gathered so far as practicable the numerous scattered meetings of special societies, which were being held without any correlation of time or place, was in my opinion a distinct step in advance.

When the question of winter meetings for the American Association first began to be considered it became evident that many members of the association preferred the summer meeting. Comparatively few probably would attend two meetings a year, but I think it safe to estimate that if by its present plan of holding one meeting a year the association succeeds on the average in securing an attendance of 500 of its 4,000 members, it would, by holding both summer and winter meetings, in localities and at times selected with judgment, have almost if not quite as large an attendance at each. It would thus double its usefulness by supplying the facilities for a scientific meeting to twice as many of its members every year.

The general feeling in the west is for summer meetings. In the east the majority favors meetings in the winter, but the geographical lines are not sharply drawn. Many of us would be glad of a choice between the summer and the winter meeting with privilege of attending one, both or neither at our convenience. The summer meetings should be held, as a rule, in some attractive and accessible resort; in the mountains, on the lakes or at the seashore. By selecting the earliest possible date after the closing of our colleges it would be practicable to house the entire attending membership under one roof. The great summer hotels at the beginning of the season are almost empty and they would welcome the association. The end of the summer, while desirable in certain respects, is the crowded season at such places and it would be difficult to find suitable accommodations.

Summer meetings would probably be as well attended as those held in convocation week; the attendance at the former would indeed be the much larger but for the greater gathering of the affiliated societies in winter.

The association in bringing together men of many sciences has a more important function than appears to be commonly recognized. Without some such organization we shall meet in the various special societies only those who are engaged in our own particular lines of work. The bringing together of the various affiliated societies at a common meeting place helps to mitigate one of the most unfortunate features of modern specialization in science, namely, the separation of men of science into small groups. Moreover, the formation of special societies has gone so far that every one is compelled to hold membership in several. In addition to being a member of the American Physical Society the physicist is or should be interested in the work of the Institute of Electrical Engineers, of the Physical Chemists, of the Society for Astrophysics, of the Mathematical Society, of the Electro-Chemical Society, etc. The affiliation of these and other special societies in the American Association would make it easy for one to get in touch at least once a year with the various activities which they represent, hence the importance of convocation week. It is not less imperative that the American Association afford those of its members who can not attend its winter meetings an opportunity for intercourse with kindred spirits at times and places possible to them. The question of the expense of two meetings a year is not worthy of consideration. It is absurd to say that an association with a membership of 4,000 is unable to carry on two, or if desirable, even more meetings every year.

E. L. Nichols.

When the American Scientific Association was organized in 1847 it was, like its immediate predecessor the Association of American Geologists and Naturalists, the only national society devoted to pure science in

this country. To be elected a member was a certificate of scientific standing. Its first president, William B. Rogers, was equally well known as a physicist and as a geologist, and the day of close specialization had not yet begun. The formation of the National Academy during the civil war was not undertaken with a view to organizing any more select body of investigators, but rather for utilitarian purposes. To be selected as a scientific adviser for the government was a high honor, but it seems not to have interfered with the loyalty of any member to the national association. At the memorable Albany meeting in 1851 about 27 per cent. of the total membership of 769 were present. At the Washington meeting in December, 1902, about 27 per cent. of the total membership of 3,596 were present.

That differentiation should result from increasing growth was naturally to be expected. In 1875 the first division into two sections was made, the total membership being still only 807. It was at the Saratoga meeting in 1879 that the policy of popularizing the association seems to have been inaugurated, the barriers to membership, in the form of recognized scientific credentials, being in great measure removed. The next meeting, held in Boston, was attended by 997 persons, and the total membership was increased to 1,555. At the Cincinnati meeting in 1881, although the attendance was but half that of the Boston meeting, it was decided to break up into nine sections. Already a serious source of embarrassment had sprung into existence in the form of an invasion of cranks. About the same time was noticed the absence of a number of members of the National Academy who had formerly been regular attendants. To guard against the admission of papers by ill-balanced or ignorant persons it was necessary to form committees of inspection whose duty it should be to suppress such papers, a summary of each being required before it could be presented to any section. The laxity in regard to admission soon became such as to develop the wide-spread impression that anybody of either sex could be elected to membership by exhibiting willingness to pay the usual fees.

If the term scientific aristocracy is admissible at all it was applicable to the association in its earlier days. The rapid change to democracy after the Saratoga meeting produced dissatisfaction among many, and this was manifested in the formation of the American Chemical Society as an offshoot. The interest of its members was very perceptibly withdrawn for a time from Section C, although affiliation was claimed. One after another of these affiliated societies has since been formed, until their number now considerably exceeds the number of sections of the parent association. Where the affiliated society has a field identical with that of a section of the association the two usually meet together, as a matter of courtesy, but division is still perceptible. The American Physical Society, for example, has four meetings each year, the agreement being that one of them shall be held in conjunction with Section B of the association and the others usually in New York. The chief reason alleged for the formation of the Physical Society was that many of the leading physicists of the country could not be induced to attend the meetings of the larger association on account of the lack of discrimination in its make-up. It has been repeatedly noticeable that some of the most active members of the Physical Society were absent from the joint meetings. No ground for criticism is implied in such a statement. Every one is perfectly free to attend only such meetings as are found attractive, and an appeal based on loyalty to the parent association can never be effective, especially now that the number of gatherings is so great that nobody can attend them all.

The tendency toward disintegration of the growingly unwieldy national association is not due merely to increasing diversity of interests or undue liberality in admitting those who are not specialists. The great size of our country and the consequent expense involved in long journeys make the conditions essentially different from those which seem to have maintained the unity of the British Association. Reduced rates on the railroads can

generally be secured for almost any gathering of more than fifty or a hundred persons, but in spite of this a trip from Boston or Savannah to Denver or San Francisco implies an expenditure in both money and time which is prohibitive to many. The plan advocated by the editor of SCIENCE, that each affiliated society shall send delegates to the annual meetings of the national association, is much to be commended and well worth trying, but its availability depends much upon the location of each delegate's home with regard to the place of meeting. The tendency toward the formation of separate societies irrespective of the American Scientific Association seems now to be well developed. Two of them met recently in New Orleans where they launched a third into existence. Recommendations may be made at will by those who wish to maintain unity, but the ordinary processes of evolution will continue without regard to individual preferences.

The present writer gives his hearty approval to the views advocated by the editor of SCIENCE, which have been well thought out. The policy of adaptation to the multitude inaugurated at the Saratoga meeting has had nearly a quarter of a century in which to become fixed. Whatever change may yet be developed, it will not be to the conditions of 1850. No plan elaborated by any single individual will be carried out in full, but the views of many, if given full expression, will be helpful in preparation for the Philadelphia meeting.

W. LE CONTE STEVENS.
WASHINGTON AND LEE UNIVERSITY,
January 16, 1904.

THE Editor of SCIENCE invites comments upon the article 'Convocation Week' published in that periodical on January 8. With much of the article I am in full accord, but with one matter I do not agree.

As the article in question says, there was considerable friction at the Washington meeting a year ago. Under the circumstances this seemed unavoidable. The rooms available were few in number and, naturally, the association and its sections were first provided for. The result was that at least two of the independent societies—the Zoologists and the Anatomists—were forced to put up with inadequate and inconvenient quarters. It would seem probable that similar disagreeable and irritating conditions will recur whenever so many organizations meet together. The only escape seems to be either the merging of the separate societies in the sections of the association or in their meeting apart, as several did this year.

The greatest objection to such a merger is the enormous extent of our country. The association is national in character and its meetings have been held at points as remote from each other as Portland and Denver, Charleston and Minneapolis. It is the policy of the association to meet one year in the east, the next in the west—Denver, Washington, St. Louis, Philadelphia and New Orleans. With this no one can find fault. A national society should supply all parts of our country. When, however, the matter of amalgamation is considered, it is seen that many of the members, most of whom are living on moderate salaries, must either take long journeys or forego the meetings on alternate years.

Another objection is the difference in character between the association and the independent societies. The latter are strictly professional organizations, aiming at the advancement of science. As such they limit their membership, thus ensuring audiences, the majority of whom are able fully to comprehend any paper presented. The association admits all who apply for membership, and its function, in spite of its name, has largely become that of the popularization and diffusion of knowledge. There is nothing more difficult than the presentation of the results of research to an audience which can not appreciate the points made. Again, with the smaller societies under the present conditions there is too little time for discussion of the papers presented; united with the sections of the association the program would be so long that this valuable feature would be entirely lost.

In view of these facts it seems best to the writer that the societies should retain their independence and should hold their meetings

without regard to the movements of the larger organization. They might all meet together at times and places where the accommodations were adequate, but such places would be few and far between.

Of course, this would result, under the present conditions, in a society and a section with similar aims meeting in different places at the same time and a member of both might have difficulty in deciding which of the two he should attend. But the remedy is a simple one. These separate societies have, by right of preemption, a claim upon the Christmas holidays for their meetings. The whole trouble has been caused by the American Association for the Advancement of Science, which has encroached upon this period and is now trying to force the independent organizations to accommodate themselves to its actions. All that is necessary for full harmony is that the association return to its summer meetings, leaving the Christmas vacation free to its rightful possessors.

J. S. KINGSLEY.
TUFTS COLLEGE,
January 13, 1904.

THE SCINTILLATIONS OF RADIUM.

THE phenomenon of the scintillation of a phosphorescent screen, under the influence of the radium bombardment, which was first described by Sir William Crookes, is one of the most impressive spectacles which we have had for a long time.

As comparatively few of us have had an opportunity of witnessing this remarkable sight, I have prepared about two dozen 'spinthariscopes,' which I shall be very glad to pass around among my colleagues, on the condition that they be promptly returned.

Last autumn, while experimenting with some phosphorescent materials, I found that the scintillations could be as easily seen when the radium was mixed with the phosphorescent powder (the mixture being pressed between two plates of glass) as in the usual form of Crookes's spinthariscope.

If one sits for several minutes in an *absolutely dark* room, and then examines the plate with a powerful pocket magnifying glass, the appearance reminds one of an enormous star cluster as seen in a telescope, the individual stars lighting up and disappearing in rapid succession, producing an impression which has been likened to that produced by moonlight on rippling water.

Whether the flashes are produced by the impact of the individual electrons which constitute the α rays, as was imagined by Crookes, or whether they represent microscopic cleavages which are occurring in the crystals as a result of the bombardment, as Becquerel believes, is still an open question. The fact that hundreds of flashes appear every few seconds, the action showing no signs of abatement after several months, makes it difficult to believe that each flash represents a split in a crystal, unless one is prepared to accept the doctrine of 'infinite divisibility.' It is, perhaps, equally hard to believe that the impact of a single electron is responsible for each flash. The obvious way of settling this question would be to make a rough estimate of the number of flashes produced in a given time by a very small amount of radium of very low activity, and see if the number was of the same order of magnitude as the number of positive electrons given off in the same time. If the number of emitted electrons far exceeds the number of flashes, we may find a way out of the difficulty by assuming that the electrons are thrown out in intermittent streams, the impact of each 'squirt' producing a flash.

On carefully scrutinizing the screen it is almost impossible to avoid forming the opinion that the points of light are in motion, the whole field squirming with light, like a colony of infusoria under the microscope. This appearance is, perhaps, a little more pronounced with the Crookes spinthariscope, in which a speck of highly active radium is mounted at a little distance above the screen. If this motion should turn out to be real and not illusory it could, perhaps, be explained by a slight sweeping motion of the streams of electrons emitted by the radium. Such speculations are scarcely worth while, however, in view of the very deceptive nature of illusions of motion. The plates which I have prepared for distribution are packed in small tin boxes, which can be sealed up in an ordinary envelope. Institutions desiring to borrow one will be